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protoplasmic currents causing the motion of diatoms. In *Navicula rhomboides* it becomes apparent that the raphe is single as in other species of this genus, and that the double raphe, based on which this form has been placed in a separate genus, is an optical illusion.

This process differs from that by which the late A. Y. Moore plated diatoms, as his were covered with a heavy layer of silver or gold and examined as opaque objects. It is rather a staining process, but likewise differs from the methods of Moore and others in this direction, which filled the cavities in the valves with opaque matter, while in this case the silica itself is rendered opaque, or nearly so.

As in all microscopical investigation, it is necessary to use judgment in interpreting appearances seen, as they will vary materially in the same species, depending on whether the entire structure is preserved. *Isthmia* affords an excellent example. Some valves may be found in which the coarse markings appear as holes in the blackened silica, showing that the secondary structure is entirely gone. Others will show the secondary structure in a similar manner as holes in a darkened plate, but still others will have the large oval markings entirely covered with a film of silver, indicating that there is a still finer and ordinarily invisible "tertiary structure" or plate, which serves as a basis on which the silver is deposited. Exactly the same conditions may be noted on the external plate of *Coscinodiscus asteromphalus*, but there is never an indication that the eye-spots on the inner plate are anything but clear openings.

JANUARY 27.

The President, SAMUEL G. DIXON, M.D., in the Chair.

Twenty-two persons present.

The following were elected members: James Spear, Henry A. Lang, and Edw. B. Meigs.

William Morton Wheeler, of Austin, Tex., and Theodore Boveri, of Würzburg, were elected correspondents.

The following were ordered to be printed: